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(54) PRODUCTION OF REINFORCED POLYBUTADIENE RUBBER

(57)Abstract:

PURPOSE: To produce the titled rubber of excellent properties in good yields, by effecting the cis-1,4-polymerization of 1,3-butadiene, adding 1,3-polybutadiene and effecting the 1,2-polymerization of 1,3-butadiene in the presence of a specified 1,2-polymerization catalyst.

CONSTITUTION: 0.01W20mmol of CS₂ and 0.2W5mmol of water are added to 1l of the total volume of 1,3-butadiene and an inert organic solvent, and the 1,3-butadiene is polymerized in the presence of a cis-1,4-polymerization catalyst obtained from a Co compound and a halogen-containing organoaluminum compound to form a cis-1,4-polybutadiene. To 100pts.wt. produced polymerization mixture are added 1W50pts.wt. 1,3-butadiene, an organoaluminum compound of the formula (wherein R₁ is a 1W6C alkyl, phenyl or cycloalkyl), which acts

Al R₃

as a 1,2-polymerization catalyst beside CS₂, and a Co compound. The 1,3-butadiene is polymerized to form a polybutadiene rubber comprising a boiling n-hexane-insoluble portion of 5W30wt% and a boiling n-hexane-soluble portion of 95W 70wt%.